

Patent claims

1. A process for the drying of polymers containing N or amino, ammonium or spirobicyclic ammonium groups, comprising cationic N-containing groups, and suitable counterions, which comprises continuously drying the gelled and washed polymers obtained by polymerization, crosslinkage and optionally alkylation using a gaseous medium under normal pressure or overpressure in a fluidized bed.
2. The process as claimed in claim 1, wherein the gaseous medium is heated to 40 to 250°C and injected into a fluidized bed dryer through a sieve bottom having a directed flow in the dryer outlet direction.
3. The process as claimed in claim 2, wherein the gaseous medium is injected into the fluidized bed dryer with a velocity of 0.02 m/sec to 3.5 m/sec.
4. The process as claimed in claim 2, wherein the polymer gel, which can have up to approximately 90% of bound water, is introduced continuously into the fluidized bed dryer, whereupon owing to the gaseous medium injected in, loosening of the moist product and then the formation of a constant fluidized bed occurs and finally, after a residence time of 5 to 12 h, sufficient dried polymer gel, which has a water content of 2 to 5%, is removed continuously from the fluidized bed dryer such that a constant amount of fluidized bed remains in the dryer.
5. The process as claimed in claim 4, wherein the polymer gel is heated to 60 to 120° C at the dryer exit.

6. The process as claimed in claim 4, wherein the moist nitrogen waste gas, which has a temperature from 70 to 100°C, is led with any polymer gel fines discharged from the fluidized bed, for the separation of the fine fraction through a filter situated in the dryer or through a cyclone separator having a fine filter connected in series, then led through a condenser, cooled to 5 to 35°C and then heated again to 40 to 250°C with 100% saturation and again led into the fluidized bed dryer.
7. The process as claimed in claim 4, wherein various temperature zones having different gas velocities are established in the dryer.
8. The process as claimed in claim 4, wherein the introduction of the product is carried out via a double pendulum flap, via a nibbler or a static sieve with a rotor.
9. The process as claimed in claim 4, wherein dried product is introduced into the dryer as a base layer.